Answer on Question#52045 - Physics - Quantum Mechanics

What are the dimensions of pressure gradient?

MLT^{-2}

$ML^{-2}T^{-2}$

$ML^{3}T^{-2}$

$M^{-2}L^{2}T^{-3}$

Solution:

The dimensions of pressure are $ML^{-1}T^{-2}$. Since the gradient of pressure is given by the derivatives with respect to the coordinates, the dimensions of pressure gradient are given by the dimensions of pressure divided by the dimension of length. So, the dimensions of pressure gradient are

$$\frac{ML^{-1}T^{-2}}{L} = ML^{-2}T^{-2}$$

Answer: $ML^{-2}T^{-2}$.